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XXIV. "Supplementary Researches on the Partition of Numbers." By ARTHUR CAYLEY, Esq., F.R.S. Received March 19, 1857.

(Abstract.)

The paper is supplementary to the author's memoir, "Researches on the Partition of Numbers," which comprises the two papers abstracts of which appear in the 'Proceedings' of the Meeting of the 3rd of May, 1855. It contains some additional developments in relation to the theorem referred to at the conclusion of the former memoir, and an application to the determination of the expression for $P(1, 2, 3, 4, 5, 6, 9)$.

XXV. "On the Anatomy and Physiology of the *Spongiadæ*." By J. S. BOWERBANK, F.R.S., F.L.S., &c. Received June 17, 1857.

(Abstract.)

The arrangement of the *Spongiadæ* by Lamarck, based entirely on external form, is wholly inadequate for the discrimination of species. The classification adopted by Drs. Fleming, Grant, and Johnston, dependent more especially on the chemical constituents of those bodies, is far too limited to be applied in generic characters. The author has, therefore, for this purpose rejected both systems, and has retained the latter one for forming primary divisions only, and he purposes founding the generic characters principally on the organic structure and mode of arrangement of the skeleton, in accordance with the practice so generally adopted by naturalists with regard to many of the higher classes of animals. *Tethea*, *Geodia*, *Dysidea* and a few others are the only well-defined genera that have yet been established; while others, such as *Halichondria*, even in the narrow circle of the list of British species, contain at least ten distinct modes of arrangement of the skeleton, each of which is constant and well-defined in its character.

It is not intended to propose the rejection of any of the well-established genera of preceding authorities, but to confine each genus strictly within the bounds indicated by the peculiar mode of structure of the skeleton which exists in that species of sponge which is